# Highway 71/72 Refinery Site (Bossier Parish) Louisiana


**EPA REGION 6**
**CONGRESSIONAL DISTRICT 04**

**Contact:**
**Laura Stankosky 214-665-7525**

**EPA ID# LAD981054075**
**Site ID: 0600641**

**Updated: June 2012**

## Background

The Highway 71/72 Refinery Site (the "Site"; also called the Old Citgo Refinery,or the Arkansas Fuel Oil Refinery) is located near the intersections of Louisiana State Highways 71and 72 in Bossier City, Bossier Parish, Louisiana. The Site is approximately 2 miles east of downtown Shreveport and 1,500 feet north of the Red River. The Site consists of approximately 215 acres of land where an industrial facility, a crude oil refinery, was once located. The refinery included processing areas, bulk storage areas, distribution areas, and a railroad tank car repair yard. At the time of operation, the refinery was north of the Kansas City Southern Railroad lines and south of the Illinois Central Gulf Railroad lines.

Between 1923 and 1929, the Louisiana Oil Refining Corporation (LORECO) acquired the property now known as the Site (except for a small part) and began building a refinery for the production of home heating and fuel oil. The refinery was operational until shortly after the end of World War II. The refinery was shut down some time between 1944 and 1948. The former refinery site continued to serve as a petroleum storage and distribution facility even after refinery operations were discontinued. Petroleum was stored at the Site and included leaded gasoline. By 1955, a significant portion of the refinery process equipment had been dismantled, and most of the tanks and bulk storage were leased to third parties. Between 1955 and 1967, various refinery operations were removed and sold. By 1966, an interstate highway corridor (1-20) was under construction through the Site. The interstate highway was completed by the late 1960's.

In November 1966, the refinery property owner, Cities Services Company (CSC) announced plans for the demolition of the remaining refinery structures and cleanup of the property. A land use plan was subsequently approved by the Bossier City Council and the Bossier City-Parish Metropolitan Planning Commission. In 1966 and 1967, CSC undertook site clearing, which is reported to have included: filling in all remaining ponds and bayous (with soil) with the exception of the two canals on the north half of the property; leveling all dikes, spoils banks, and mounds; clearing structures, foundations, and piping in planned residential areas to a depth of two feet; removing oil, product, and gas lines regardless of depth,

and burning or removing all asphaltic refinery waste from the Site.

Investigations and response actions conducted at the Site found evidence that the Site was not thoroughly cleaned in the 1960's as had been reported. Sludge deposits were buried under thin layers of fill material or simply graded into a level surface without any attempt at removal. High concentrations of lead were found in surface soil (addressed through the Soil Removal Action). Numerous abandoned pipelines, foundation remnants, concrete rubble, railroad tracks and ties, coke material, and tar material (sludge) were also encountered in the surface soil during response actions conducted at the Site.

Today, the refinery is gone and the Site is fully developed with single-family homes, apartments, and businesses. There are approximately 3,500 people living within the former refinery boundaries. The Site has historically been divided into northern and southern halves by the present day Old Minden Road. Private residences and commercial, and light industrial establishments currently cover a large portion of both halves of the Site. A Texas Eastern Petroleum Products Company (TEPPCO) storage facility and pump station is located along the southern border of the Site. An operating pipeline originating at the TEPPCO facility (adjacent to the Alexis Park apartment complex, along the southern end of the former Site) crosses the Site in a northerly direction to the northern property boundary of the former Site, where it then crosses/exits in an easterly direction. Approximately 52 percent of the Site is covered by pavement or buildings. Additionally, approximately 10 percent of the Site has limited accessibility (e.g., fenced I-20 right-of-way).

The Record of Decision (ROD) outlines the history of refinery purchase and corporation merges associated with the Site property and describes the site cleanup required by the EPA.

## Current Status

CanadianOxy Offshore Production Co. (COPCO) is working with EPA and the Louisiana Department of Environmental Quality (LDEQ) to clean up the contamination at the Site. Glenn Springs Holding Inc. (GSHI) represents COPCO in the cleanup of Highway 71/72 Refinery Site (Site) contamination.

GSHI has been working closely with the developers of a new hotel complex to be built on the Site at 2015 Old Minden Road. Demolition of a site hotel property, the former Holiday Inn, took place during Summer 2011 and construction of the new hotel complex is well underway as of May 2012 . The former Holiday Inn hotel is being replaced by Hilton property development. GSHI contractors are working closely with hotel construction developers and contractors to ensure that any soils or waste with former refinery contamination above ROD cleanup levels is handled and disposed properly. Approximately 3,000 cubic yards of tarry waste material has been removed from the former hotel area.

Remedial Action (RA) describes the actions taken to clean up the Site. Cleanup of ground water contamination consists of dual-phase extraction (DPE) of the light non-aqueous phase liquid (LNAPL) on the ground water. The RA for ground water was separated into two distinct installation phases. Phase I addressed ground water contamination on a 5-acre vacant lot bounded by John Wesley Boulevard and Bobbie Street. The Phase II area encompassed Days Inn, Motel 6, and other commercial properties. Well drilling was completed in August 2009. Installation of Phase II piping

started May 3, 2010, and was completed mid-June 2010. Final testing of the DPE system took place in June. The system was determined to be operating properly on July 14, 2010. System optimization is on-going. GSHI contractors are making adjustments to optimize system LNAPL capture. May 4, 2011, EPA, LDEQ, and GSHI representatives determined that the DPE system was operational and functional and that significant reductions in LNAPL were occurring.

The contractors will continue monitoring of the LNAPL on ground water in all wells included in the Phase I and II areas. Ground water monitoring across the 215 area Site is on-going.

Another component of the RA is sampling of soil and indoor air at the request of on-site residents, workers, business or property-owners. All soil sampling and cleanup/indoor air sampling and mitigation will be coordinated with the property owner, and conducted by the PRPs, with EPA/LDEQ, at no cost to the on-site party requesting these services. EPA, LDEQ, and GSHI representatives determined that Remedial Action Completion for Lead in Soil has been achieved on September 27, 2011.

## Benefits

Removal Actions were completed 1996 through 1999 for soil and indoor air. These removal actions eliminated unacceptable health risks associated with soil and indoor air for current and future residents.

The Soil Removal Action reduced the potential threat to children living and/or playing on the Site who could have contacted high levels of lead in surface soils.

The Indoor Air Removal Action reduced the potential threat to occupants of 8 onsite units who were being exposed to benzene concentrations in indoor air above the action level of 10 ppbv.

The Pilot Demonstration Project for LNAPL Recovery, conducted voluntarily by GSHI, helped all parties determine the feasibility and/or effectiveness of various long-term response actions evaluated at the Site.

## National Priorities Listing (NPL) History

| | |
|---|---|
| NPL Inclusion Proposal Date: | February 13, 1995 |
| NPL Inclusion Final Date: | n/a |
| NPL Deletion Proposal Date: | n/a |
| NPL Deletion Final Date: | n/a |

Location: The Highway 71/72 Refinery Site is located in downtown Bossier City, Louisiana, about 2 miles east of downtown Shreveport and 1,800 feet north of the Red River. The former refinery site consisted of about 215 acres. The geodetic coordinates of the Site are 32°31.0' north latitude and 93°42.7' west longitude.

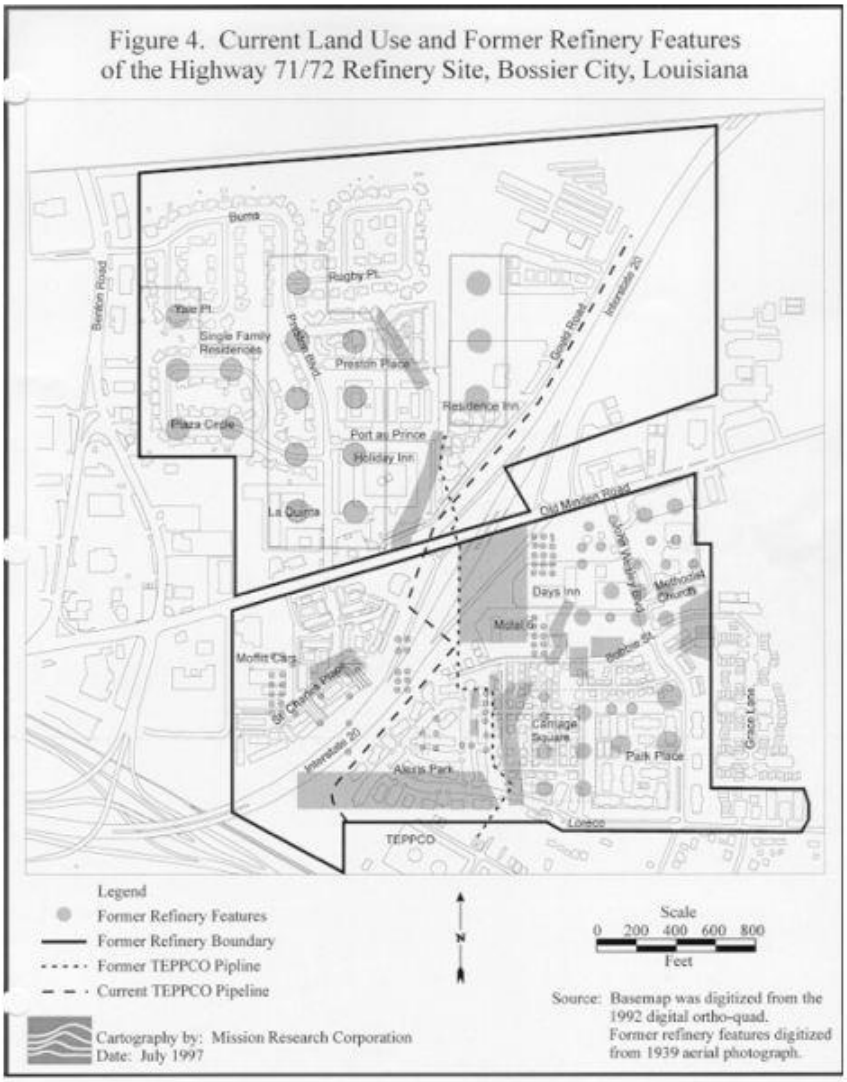
Population: Bossier City (population 56,461 in 2000; 3500 people currently live onsite, including about 370 children (U.S. Census Bureau, 2000).

Setting: The former refinery was operational from 1923 until sometime between 1944 and 1948. In 1950, dismantling of several groups of tanks in the refinery process area had begun. By 1955, a significant portion of the refinery process area had been dismantled and most tanks were leased to third parties. From 1955-1967, various refinery operations were sold and removed. Beginning in 1968 and continuing to the present, the Site has undergone development.

Currently, private residences, commercial buildings, and light industrial establishments

cover a large portion of the Site. Pavement or buildings cover approximately 52% of the area within the Site. Additionally, approximately 10% of the Site has limited accessibility for future development (i.e., the I-20 right-of-way).

## Site Map



## Health Considerations

- All known surficial areas where exposure to lead in surface soils could potentially present health threats to children have been addressed under the Soil Removal Actions from 1996-1998.
- The Indoor Air Removal Action conducted in 1997 and 1998 addressed the imminent and substantial threats identified in 8 occupied dwellings to date. However, the potential for contamination of other units do exist due to possible migration of contaminants into indoor air from underlying source areas.
- LNAPLs in groundwater and areas of high soil gas concentrations (possibly generated from dissolved groundwater plumes and/or leading edge of LNAPLs plume) may be the underlying source areas of potential indoor air contamination.
- Buried wastes and contaminated soils may present a health threat if exposed, left on the surface and/or improperly disposed of in the future.
- Ecological risks are indeterminate at this time due to the urban nature of the site.

## Record of Decision (ROD)

EPA signed the Record of Decision on September 26, 2000.

The full text of the ROD is available on the EPA – Region 6 website at: http://www.epa.gov/earth1r6/6sf/pdffiles/finalrodwfig.pdf . The major components of the Selected Remedy (Implementation of Common Elements plus Enhanced Light Non-Aqueous Phase Liquid (LNAPL) Recovery By Dual Phase Extraction (Plumes A, B, C, and D)) consist of:

- Sampling for lead in surface soil and sampling for hydrocarbons in surface and subsurface soils at the request of on-site community members;
- Cleanup of lead-contaminated surface soil discovered during requested sampling or uncovered during earthmoving activities;
- Cleanup of hydrocarbon-contaminated surface and subsurface soil discovered during requested sampling or uncovered during earthmoving activities;
- Sampling for benzene in indoor air at the request of on-site community members;
- Mitigation of indoor air contamination discovered through requested sampling;
- Implementation of ground water use restrictions;
- Periodic notification of the on-site community of potential contamination, of available services, and of ground water use restrictions;
- Environmental monitoring of LNAPL, ground water, and indoor air; and
- Enhanced LNAPL recovery by dual phase extraction (Plumes A, B, C, and D), including LNAPL recycling/reuse or disposal and treatment or disposal of co-extracted ground water and vapors.

## Site Contacts

| | | |
|---|---|---|
| EPA Remedial Project Manager: | Laura Stankosky | 214-665-7525 or 800-533-3508 |
| EPA Community Involvement Coordinator | Janetta Coats | 214-665-7308 or 800-533-3508 |
| EPA Site Attorney: | James Costello | 214-665-8045 or 800-533-3508 |
| LDEQ Louisiana State Contact: | John Halk | 225-219-3652 |
| EPA Public Liaison | Donn R. Walters | 214-665-6483 or 800-533-3508 |
| EPA Region 6 Toll Free Telephone Number | | 800-533-3508 |